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SOURCE Sovetskaya Latviya.

ODESSA PLANT DEVELOPS PRODUCTION OF THIN CAST-IRON SHEETS

/Numbers in parentheses refer to appended sources./

Inventors in many countries have made unsuccessful attempts to simplify the process of manufacturing thin metal sheets. The Soviet Union alone has been able to solve this problem. A group of Soviet scientists and workers headed by the Odessa engineer Ye. Nikolayenko has developed a new and original method of producing thin metal sheets directly from liquid cast iron. (1) The Odessa Plant of Agricultural Machine-Building imeni Oktyabr'skoy revolyutsii has designed and installed a simple machine for producing thin sheets of gray cast iron, which serve as a valuable roofing material.(2) The new method has received a Stalin prize and has been used widely in many plants of the Soviet Union. This simple and inexpensive method makes it possible to produce sheets of various sizes, from 0.5 to 1.2 millimeters thick.

Cast-iron sheets are not subject to corrosion, they are sufficiently strong and have a smooth surface, they can be bent easily, and their weight does not exceed that of ordinary sheet iron. The new type of sheet can be easily painted, without preliminary treatment of the surface. However, in many cases painting is not even necessary to protect the metal against rust. This fact is very important in the manufacture of roofing material. After a 12-month period, the iron is covered with a solid oxide coating, which prevents decomposition. In an atmosphere containing carbon dioxide and sulfur dioxide, the durability of sheets made of liquid cast iron is eight to nine times greater than that of steel sheets.

However, the most important advantage of the new method is that cast-iron sheets can be produced at any enterprise having a cupola furnace. The production process is inexpensive and simple.(1) The equipment occupies only about 25 to 30 square meters. The pig iron is smelted in the cupola furnace. The machine itself consists of two small rollers and an installation for cutting and moving the sheets from the rollers and from the annealing furnace. The

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liquid iron is poured directly from the ladle between the rollers, which form the sheet while the metal is cooling off. The finished sheets are annealed: this process makes them plastic and similar to steel. During a 24-hour period, one installation of this kind can produce 5,000 square meters of sheets, from 0.5 to 0.6 millimeter thick. The cost of cast-iron sheets is 50 percent below that of sheet steel. In many republics, cast-iron roofing is now being produced instead of the former roofing iron.(2)

The Ministries of Local Industry, Construction Materials Industry, and Communal Economy of the Latvian SSR, as well as large plants such as the Riga Railroad-Car Plant and the Daugavpils Locomotive and Railroad-Car Repair Plant, which require large quantities of sheet metal, should show more interest in introducing the new production method in their enterprises.(1)

SOURCES

1. Riga, Sovetskaya Latviya, 4 Oct 51

2. Ibid., 7 Jun 51